

DRY CONTACT ASSEMBLIES, METHODS FOR MAKING DRY CONTACT
ASSEMBLIES, AND PLATING MACHINES WITH DRY CONTACT ASSEMBLIES FOR
PLATING MICROELECTRONIC WORKPIECES

ABSTRACT

Contact assemblies, electroplating machines with contact assemblies, and methods for making contact assemblies that are used in the fabrication of microelectronic workpieces. The contact assemblies can be dry-contact assemblies. A contact assembly for use in an electroplating system can comprise a support member and a contact system carried by the support member. The support member, for example, can be a ring or another structure that has an opening configured to receive the workpiece. In one embodiment, the support member is a conductive ring. The contact system can have a plurality of contact members projecting inwardly into the opening relative to the support member. The contact members can comprise electrically conductive biasing elements that have contact sites and the contact members can also have a dielectric coating covering at least a portion of the biasing elements. The contact system can also have a shield carried by the support member and a seal on the lip of the shield. The shield and seal are configured to prevent electroplating solution from engaging the contact members.